

REMARKS

Reconsideration of this application is respectfully requested in view of the following remarks.

Applicants appreciate the acknowledgement of allowable subject matter in claims 4 and 6-10.

Claims 1-22 are currently pending in the application and subject to examination.

Claims 1-3, 5, 12, 14 and 18-19 Recite Patentable Subject Matter

In the Office Action mailed April 21, 2005, claims 1-3, 5, 12, 14 and 18-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,392,437 to Matter et al. (hereinafter, "Matter"). Claims 11, 13, 15-17 and 20-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matter as applied to claims 1-3, 5, 12, 14 and 18-19 above, and further in view of U.S. Patent No. 5,886,582 to Stansell. The Applicants hereby traverse the rejections, as follows.

Independent claims 1, 3, 12, 14, 16, 18, 19 and 21 are directed to a microcomputer or a microcomputer system, the microcomputer including at least a wakeup terminal, an oscillation circuit and a clock control circuit. In each of claims 1, 3, 12, 14, 16, 18, 19 and 21, oscillation of the oscillation circuit stops by either the control of a clock control circuit, the receipt by the oscillation circuit of an oscillation stop signal, or a combination thereof. In claims 1 and 18, the clock control circuit controls the oscillation circuit so as to restart the oscillation based on the wakeup signal received by the wakeup terminal from outside the microcomputer. In claims 3, 16, 19 and 21, the clock control circuit stops output of the oscillation stop signal based on the wakeup signal received by the wakeup terminal from outside the microcomputer. In claims 12

and 14, the clock control circuit outputs the oscillation stop signal to the oscillation circuit only for a specific time interval, based on the wakeup signal received by the wakeup terminal from outside the microcomputer. Thus, by the present invention as claimed, a microcomputer is provided with a failsafe function such that a state in which oscillation of an oscillation circuit is stopped can be released by hardware only, without requiring software intervention, to thereby avoid deadlock.

Matter is directed to a method and apparatus for independently stopping and restarting functional units. The mechanism of Matter allows on-chip functional units to be automatically stopped when not being used and automatically restarted when being prepared for use. Matter discloses that the functional units are clocked independently of each other and that, when use of a functional unit is not required, the functional unit is powered down "transparent and independent of the rest of the functional units." See *Matter*, Abstract. Matter teaches that determination of whether the functional units are required for use, and whether their independent clocks are stopped or started is accomplished "by using internal interfaces" (emphasis added.) *Id.*, col. 4, lines 34-36 and col. 6, lines 8-53. Matter teaches that since the detection is monitored internally, the apparatus for starting and stopping the functional unit "requires no external software or hardware interfaces and is, therefore, 100% transparent to the remainder of the functional units of microprocessor 100" (emphasis added.) *Id.*, col. 6, lines 15-18.

As noted in the outstanding Office Action, Matter teaches that a signal FCLKEN, provides the internal interface for enabling and disabling the clock signals of the functional unit. *Id.*, col. 6, lines 44-47 and col. 7, lines 44-46. As explained in Matter, the clock enable signal FCLKEN is received from the functional unit (floating point unit 202)

by the bus controller 201 via line 212. *Id.*, col. 7, lines 9-11. In Matter, the clock enable signal FCLKEN is not received from the outside.

As explained above, in the claimed invention, the oscillation circuit is controlled to resume oscillation, output of the oscillation stop signal is stopped, or a duration of the output of the oscillation stop signal is limited, in response to a wakeup signal which is received by the wakeup terminal from outside the microcomputer. In Matter, the FCLKEN signal, which is interpreted by the Office Action as being analogous to the claimed wakeup signal, is not supplied from the outside, as is the wakeup signal of the claimed invention. Matter neither discloses nor suggests supplying the FCLKEN signal from the outside. Rather, it is the primary intent of Matter to allow the FCLKEN signal to be supplied internally in order to allow functional units to be temporarily disabled independently of other functional units of the microprocessor. *Id.*, col. 4, lines 3-50.

Stansell is directed to a PLL lock detect circuit that generates an active lock control signal when an output reference signal of a phase lock loop (PLL) circuit is phase locked relative to an input reference signal to the PLL. Stansell neither discloses nor suggests an oscillation circuit which oscillates and outputs an oscillation signal; a wakeup terminal that receives from outside a wakeup signal of a predetermined cycle; and a clock control circuit which controls said oscillation circuit so as to stop the oscillation, and based on the wakeup signal, controls said oscillation circuit so as to restart the oscillation (claims 1, 18), stops output of the oscillation stop signal (claims 3, 16, 19 and 21), or outputs the oscillation stop signal to said oscillation circuit only for a specific time interval (claims 12, 14), as claimed.

To qualify as prior art under 35 U.S.C. §102, a single reference must teach, i.e., identically describe, each feature of a rejected claim. Moreover, to establish *prima facie* obviousness of a rejected claim, the applied art of record must teach or suggest each feature of a rejected claim. See M.P.E.P. §2143.03. As explained above, neither Matter nor Stansell, alone or in combination, discloses or suggests each and every feature of independent claims 1, 3, 12, 14, 16, 18, 19 and 21. Thus, Applicant respectfully submits that independent claims 1, 3, 12, 14, 16, 18, 19 and 21 are neither anticipated nor rendered obvious by the combination of Matter and Stansell. Accordingly, Applicant respectfully submits that independent claims 1, 3, 12, 14, 16, 18, 19 and 21 are allowable over the combination of Matter and Stansell.

Claims 2, 4-11, 13, 15, 17, 20 and 22 depend from claims 1, 3, 12, 14, 16, 19 and 21, respectively. Thus, it is respectfully submitted that claims 2, 4-11, 13, 15, 17, 20 and 22 are allowable for the same reasons as claims 1, 3, 12, 14, 16, 19 and 21, as well as for the additional subject matter recited therein.

Further, in rejecting claims 11, 13, 15-17 and 20-22 as being unpatentable over Matter in view of U.S. Patent No. 5,886,582 to Stansell, the Office Action asserts that "it would have been obvious to one of ordinary skill in the art at the time of the invention to include the teachings in Stansell into the Matter system because it will provide a means to prevent any errors or prevent the Matter system from entering an unstable state due to an unstable clock." *Office Action*, p. 4.

Applicant respectfully submits that the PTO has not yet set forth a *prima facie* case of obviousness. The PTO has the burden under §103 to establish a *prima facie* case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Both the

case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The PTO can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. *Id.* In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998); *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999); *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

As noted above, the Office Action merely states that the motivation for combining the references is found in certain advantages stated by the Examiner (see, e.g., Office Action at p. 4). The Office Action, however, indicates nothing from within the applied references to evidence the desirability of this combination. This is an insufficient showing of motivation.

For all of the above reasons, Applicant respectfully submits that claims 1-22 are allowable over the combination of Matter and Stansell, and withdrawal of the rejections of claims 1-3, 5, 11-22 under 35 USC § 103(a) is respectfully requested.

Conclusion

For all of the above reasons, it is respectfully submitted that claims 1-22 are patentability distinct over the cited references. Accordingly, reconsideration and

withdrawal of the outstanding rejections and the prompt issuance of a Notice of Allowability are earnestly solicited.

Should the Examiner determine that any further action is necessary to place the application into condition for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment associated with this communication to Deposit Account No. 01-2300 referencing client matter number 108391-00019.

Respectfully submitted,

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A handwritten signature in dark ink, appearing to read "Michele L. Connell", is written over a horizontal line.

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